

RECEIVED
CENTRAL FAX CENTER
SEP 05 2006

Remarks

I. Specification Objections

In the Office Action, the Examiner noted that the claimed invention, following the election of Claims 8-14, is solely directed to a method. Accordingly, the Examiner suggested amending the Title and the Abstract to reflect this. In response, Applicant has so amended the Title and Abstract.

II. Rejection Based on 35 U.S.C. § 112

In the Office Action, the Examiner rejected Claims 8-14 as being indefinite under 35 U.S.C. § 112, second paragraph, with respect to the term "intrinsic silicon layers" in independent Claim 8. In response, Applicant has amended Claim 8 to further define "intrinsic silicon layers" as "having substantially equal effective concentrations of said p-type and n-type impurities." This is supported by the Specification. See ¶70.

Accordingly, Applicant respectfully submits that this rejection has been overcome.

III. Rejection Based on 35 U.S.C. § 103

In the Office Action, the Examiner rejected Claims 8-14 as being unpatentable over Won or Shimizu, when either is taken in view of Dickson. Applicant respectfully submits that, as amended, Claims 8-14 are patentably distinguishable over the cited references. Applicant further submits that new Claims 15-23, which also depend on independent Claim 8, are patentably distinguishable over the cited combination.

In order to more fully clarify the nature of the claimed invention, Applicant has amended independent Claim 8. As amended, Claim 8 recites the rolling of the hydrogen plasma cloud into a coaxial vortex. Support for this amendment may be found in the Specification. See, e.g., Summary of the Invention, ¶ 18; Title (“Roll-Vortex Plasma Chemical Vapor Deposition System”). The feature of rolling the hydrogen plasma cloud into a coaxial vortex is not shown in the cited art, whether alone or in combination.

With respect to new Claims 15-23, Applicant respectfully submits that these are patentable for the reasons set forth herein with respect to independent Claim 8, and additionally for the reason that the features recited therein are also not shown in the art of record. For example, Claim 16 recites the step of inducing multiple coaxial vortexes. As noted above, the prior art does not disclose the induction of a single roll vortex of the hydrogen plasma cloud. Claims 19-21 are directed to particular methods of generating the roll vortex(es), based on certain arrays of gas injector jets.

Claim 17 recites the injection of high concentration silane, and Claim 18 specifically recites the injection of approximately 100% silane gas. None of the cited references discloses the injection into the deposition chamber of high concentration silane gas – instead, all disclose the injection of a gas composition that is only a small fraction silane. See, e.g., Won, 0009-0012; Dickson, Col. 2, lines 37-54; and Shimizu, Col. 4, lines 27-35.

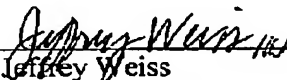
Accordingly, Applicant respectfully submits that Claims 8-23 are not obvious in light of the cited combination. In conclusion, Applicant respectfully submits that this Amendment, including the amendments to the Specification and Claims and in view of the Remarks offered in conjunction therewith, is fully responsive to all aspects of the

objections and rejections tendered in the Office Action. Applicant therefore earnestly solicits the issuance of a Notice of Allowance with respect to Claims 8-23.

If there are any additional fees incurred by this Amendment, please deduct them from our Deposit Account No. 23-0830.

Respectfully submitted,

Dated: September 5, 2006


Jeffrey Weiss
Reg. No. 45,207

Weiss, Moy & Harris, P.C.
4204 N. Brown Avenue
Scottsdale, AZ 85251
(480) 994-8888